

May 14, 2019

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Notice of Ex Parte, Unlicensed Use of the 6 GHz Band,
ET Docket No. 18-295

Dear Ms. Dortch:

On May 7, 2019, Brendan Sullivan, Chief Technology Officer and Chief Information Officer for RigNet, Inc. ("RigNet"), Dr. Alexei Vederko Manager, Global RF Engineering for RigNet, and Jamie Barnett, Senior Vice President for Government Services for RigNet, had a series of meetings at the Federal Communications Commission with the following persons:

- a. Office of Engineering and Technology (OET): Chief Julius Knapp, Nicholas Oros, Aspasia Paroutsa, Bahman Badipour, Barbara Pavon and Hugh VanTuyl.
- b. Office of Commissioner Michael O'Rielly: Erin McGrath, Legal Advisor, Wireless, Public Safety and International.
- c. Office of Chairman Ajit Pai: Zenji Nakazawa, Public Safety and Consumer Protection Advisor, and Aaron Goldberger, Wireless and International Advisor.
- d. Office of Commissioner Geoffrey Stark: Michael Scurato, Legal Advisor, Media and Consumer Protection.

The following points were made during the discussions with FCC officials, using depictions of the network and its WiMAX coverage in Exhibits A and B to this notice:

- 1. The 6 GHz licensed point-to-point network operates using 93 microwave links, serving over 300 oil and gas platforms and providing WiMAX coverage for approximately 24,000 square miles. At any given time, thousands of workers are in the Gulf, working on these platforms.

2. Oil and gas companies, oil rig operators and oil field service providers play particular attention to safety on these platforms, because the environment can be hazardous, and the results of poor safety and communications can have significant results. Accordingly, continuous and highly reliable communications are essential to public safety.
3. The 6GHz network is the most reliable broadband point-to-point communications network in the Gulf of Mexico for critical communications, public safety and emergency communications. The spectrum is particularly well-suited over water. Unlike terrestrial networks, this at-sea network's links are entirely dependent upon the positioning of oil platforms. Some microwave links go up to 30-miles, so 6 GHz works well with distance, power levels and environmental factors in a way that other microwave frequencies do not.
4. Since the blowout of the Macondo Well, 50-miles from Venice, Louisiana, and the fiery destruction and sinking of the Deepwater Horizon, new regulations have been adopted for continuous monitoring of the Blow Out Preventer on each well. The monitoring must be delivered to a center on the shore. Moreover, the industry has thousands of sensors and monitoring devices on the rigs for safety and for critical operations. Communications with these sensors are crucial for preventing large scale disasters and loss of human life.
5. The network is being upgraded to LTE throughout the Gulf of Mexico and should be complete by the summer of 2019. The use of LTE technology will greatly expand the coverage up to approximately forty thousand square miles. With LTE, new levels of public safety are available to the personnel working on these oil platforms and oil field service vessels, but also to any person in the Gulf of Mexico within the coverage of the network. The Coast Guard and other first responders can use the network for voice, data, video and emergency communications. Persons throughout the coverage area will be able to call 9-1-1 at sea, and a third-party provider has developed a capacity to ensure proper routing of the 9-1-1 call to the appropriate Public Safety Answering Point or the Coast Guard.
6. With the LTE network, its low latency, high capacity throughput and high level of reliability, telemedicine for persons injured on platforms and on ships and boats within the coverage area becomes possible. The network also will enhance the use of video and other communications applications for at-sea firefighting, medical evacuation, suicide prevention, search-and-rescue, disaster preparedness, emergency and weather alerts.
7. The unlicensed use of 6 GHz in the Gulf of Mexico threatens public safety communications because of the nature of the network, this particular spectrum, the necessary architecture of the network, the effect of seawater

reflectivity in amplifying interference and the fact that interference will be located close to the microwave links.

8. Dr. Vederko elaborated on his series of calculations, contained in RigNet's Reply Comments, which show unacceptable interference due to the structure of the network and the probably positioning of the interference sources on the same platforms and in the main lobe. Moreover, due to the nature of the network and the positioning of unlicensed wireless access points on the same platforms that support the backhaul network or anywhere close to the line of sight between backhaul sites, Automatic Frequency Coordination would not be effective.
9. Dr. Vederko also discussed how seawater is more reflective of RF energy than terrain, where there is more absorption and diffusion. At sea, even with some significant wave action and sea state, unlicensed use can be expected to cause more severe interference than on land.
10. For the protection of first responders, public safety communications, 9-1-1, wireless emergency alerts, emergency communications and other critical communications, the unlicensed use of 6 GHz should proceed excluding the Gulf of Mexico with appropriate protections where the 6 GHz network comes ashore.

Pursuant to Section 1.1206 of the Commission's rules, this letter is being filed electronically with your office.

Respectfully submitted

RIGNET, INC.

By: ///s///

Raul Magallanes, Assoc. General Counsel
Brad Eastman, General Counsel
James Arden Barnett, Jr, RDML USN (Ret)
Senior Vice President, Government Service

cc: Julius Knapp
Ira Keltz
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Hugh Van Tuyl
Erin McGrath
Michael Scurato

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Umair Javed
Will Adams

Exhibit A: Chart of Gulf of Mexico 6 GHz Network

Exhibit B: Chart of WiMAX Coverage



